

REMARKS

Rejections Under 35 USC 102

Claims 1, 3, 5, 7, 8, and 19 have been rejected under 35 USC 102(b) as being anticipated by Wolf ("Silicon Processing"). Claims 1 and 19 are independent claims, and claims 3, 5, 7, and 8 ultimately depend from claim 1. Applicant asserts that claims 1 and 19 are patentable over Wolf, such that claims 3, 5, 7, and 8 are patentable for at least the same reason. Applicant specifically discusses the patentability of claim 1. Claim 19 has comparable limitations to claim 1, and therefore is patentable for at least the same reason that claim 1 is.

Applicant has amended claim 1 to better clarify the subject invention of this claim, as Applicant believes that the Examiner may have been confused as to what Applicant is claiming. In particular, Applicant has preceded the word "comprising" in claim 1 with "the pattern for the epitaxial layer." This is because Applicant is claiming that the pattern within the *epitaxial layer* has the first sub-pattern and the second sub-pattern elements, not, for instance, any type of pattern within the *semiconductor substrate layer*. It is noted that claim 19 is already limited to having the sub-patterns defined on the epitaxial layer, and therefore does not require a clarifying amendment as does claim 1.

The crux of the invention of claim 1 is that there are at least two sub-patterns on the epitaxial layer, each having the same shape but with different dimensions. Depending on which of the sub-patterns is obfuscated indicates the dimensions for which epitaxial washout has occurred. For instance, the first sub-pattern has minimum dimensions and the second sub-pattern has maximum dimensions. If only the first sub-pattern is obfuscated, then this means that epitaxial washout has occurred only for dimensions that are less than the minimum dimensions, whereas if the second sub-pattern is obfuscated, then this means that epitaxial washout has occurred for all dimensions that are less than the maximum dimensions.

This is further buttressed in the second paragraph of the summary of the invention section of the patent application as filed.

By proceeding down the series of sub-patterns, and determining the first sub-pattern of the series that is not clear – that is, which is obfuscated – a semiconductor technician can easily determine at which dimensions epitaxial layer washout has occurred. These dimensions are those that are equal to or less than the dimensions of the first sub-pattern of the series that is obfuscated.

That is, the idea here is that there are at least two sub-patterns within the epitaxial layer that have the same shape, but have different dimensions. By locating the largest dimension sub-pattern that is obfuscated as a result of epitaxial washout by simple visual inspection, the technician can conclude that dimensions equal to or less the washed-out dimension have all been washed out.

Wolf, however, does not include at least two sub-patterns on the *epitaxial layer*, each having the same shape but with different dimensions. Applicant notes that in FIG. 19 of Wolf, there is only one sub-pattern in the epitaxial layer, the trench having the bottom points a and b. The sub-pattern having the bottom points c and d is in *the substrate layer*, not the epitaxial layer. That is, FIG. 19 shows a cross-sectional view of a pattern in the substrate layer having a mirrored pattern in the epitaxial layer. The sub-pattern (trench) in the substrate layer, defined by the bottom points c and d, is mirrored in the sub-pattern (trench) in the epitaxial layer, defined by the bottom points a and b. By comparison, both sub-patterns of claim 1 are within the epitaxial layer. Therefore, Wolf does not anticipate claim 1.

Furthermore, Wolf does not provide for indication of which dimensions epitaxial washout has occurred. There can never be epitaxial washout as to the sub-pattern (trench) in the substrate layer of Wolf, since this sub-pattern is defined in the substrate layer and not in the epitaxial layer. Inasmuch as the dimension between points c and d is larger than the dimension between points a and b, this means that a critical limitation of the second element of claim 1 is not satisfied by Wolf, that “obfuscation of the second sub-pattern indicating that epitaxial washout has occurred

for dimensions equal to or less than the . . . maximum dimensions.” That is, the sub-pattern (trench) in the substrate layer of Wolf, by virtue of being in the substrate layer, cannot by definition be epitaxially washed out. Therefore, Wolf cannot anticipate claim 1, because it does not have more than one sub-pattern *within the epitaxial layer* that may be obfuscated by epitaxial wash out.

Applicant believes that the Examiner’s confusion as to Wolf was spawned by Applicant not clearly specifying that the two sub-patterns are part of the pattern for the epitaxial layer in claim 1. Therefore, the Examiner found two sub-patterns in FIG. 19 of Wolf, but one of these is within the substrate layer, and thus can never be the subject of epitaxial wash out, which is the crux of the invention as claimed. Applicant apologizes for this confusion, and submits that claim 1 as amended is now clear as to where the sub-patterns are located. Applicant therefore submits that claim 1 is now patentable over Wolf. Applicant further submits claim 19 is patentable over Wolf for at least the same reasons that claim 1 is, as are claims 3, 5, 7, and 8, as ultimately depending from claim 1.

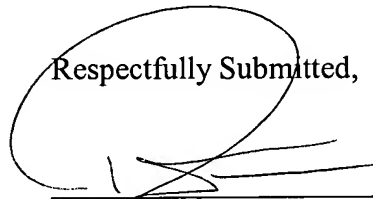
Rejections Under 35 USC 103

Claims 2, 4, 6, 9, 10, and 20 have been rejected under 35 USC 103(a) as being unpatentable over Wolf. Claims 2, 4, 6, 9, and 10 ultimately depend from claim 1, and claim 20 ultimately depends from claim 19. Therefore, claims 2, 4, 6, 9, 10, and 20 are patentable over Wolf for at least the same reason that claims 1 and 19 are patentable over Wolf, as described above.

Conclusion

Applicant has made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Randy Tung, Applicants' Attorney, at 248-540-4040, so that such issues may be resolved as expeditiously as possible. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be 'Randy Tung', is written over a horizontal line. The signature is enclosed within a large, hand-drawn oval.

Randy Tung
Reg. No. 31,311

Tung and Associates

tel: 248-540-4040
fax: 248-540-4035